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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,880	10/06/2003	David Delgado	14099/YOD ITWO:0068	3839
7590		05/18/2007		
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			KERN, KEVIN P	
			ART UNIT	PAPER NUMBER
			1725	
			MAIL DATE	DELIVERY MODE
			05/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/679,880  
Filing Date: October 06, 2003  
Appellant(s): DELGADO, DAVID

**MAILED**  
**MAY 18 2007**  
**GROUP 1700**

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Patrick S. Yoder  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 3/20/07 appealing from the Office  
action mailed 8/10/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,145,595	KELLER ET AL.	3-1979
6,855,905	DELGADO ET AL.	2-2005
5,403,987	REHRIG	4-1995
3,999,033	WILLGOHS ET AL.	12-1976

Applicant's Admitted Prior Art (paragraph [0003] of specification)

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 18-21 are rejected under 35 U.S.C. 102(b) and/or 102(a) as being anticipated by the applicant's admitted prior art (specification; paragraph [0003]).

The applicant's admitted prior art includes the following: "Welding implements have been developed to enable the torch to have a degree of flexibility so that the electrode may be positioned relative to a user's hand. In a liquid-cooled torch, the flexibility is achieved by using a series of coiled tubes to secure the torch head to the torch. A shield gas is conveyed through the interior of one of the tubes. Additional tubes are used to convey cooling liquid to and from the torch head. The tubes are coiled around each other and may be flexed to reposition the torch head." This admitted prior art disclosure includes a flexible welding implement that comprises a torch head operable to couple electricity to a welding electrode disposed therein; a gas supply tube; cooling fluid supply and return tubes; and a plurality of biasing members (in the form of a series of coiled tubes, or springs, flexibly coiled around each other) that are operable to flexibly couple the (inflexible and/or uncoiled portions) of the gas supply and cooling fluid supply and return tubes to the torch head, while also serving as a tripod support system, in the form of three springs/coils that are flexibly secured to the torch head while being disposed generally parallel with one another and with an axis of a handle supporting the torch head (specification; paragraph [0003]).

3. Claims 1, 3, 10, 11, 13-25, 35, and 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Keller et al. (US 4,145,595).

Keller et al. disclose a flexible gas-shielded arc-welding torch, in which the torch includes an attached handle portion 11; a torch head (torch barrel 12) operable to couple electricity to a welding electrode 13 disposed therein; a cooling fluid supply tube,

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in the form of a pressurized gas from a gas source via connector 27, operable to convey the cooling fluid to the torch head 12; and a first biasing member (bendable conductive helix 25 that provides gas and current), in which the helix 25 is operable to flexibly couple the cooling fluid supply tube to the torch head 12 (abstract; column 2, lines 41-68; column 3, lines 1-25 and 48-68; column 4, line 1 through column 5, line 27; and Figures 1-5). Because the helix is embedded in and cushioned by an elastomeric material (serving as a tube support member), it is also feasible to make a double helix (forming a plurality of biasing members) of tubular or solid wire when it is necessary to supply a cooling liquid having both a flow inlet (supply line) and a flow outlet (return line) to the torch (both lines of which would include axial flow components), the combination of which would serve as a tripod support system, in the form of three springs/coils that are flexibly secured to the torch head while being disposed generally parallel with one another and with an axis of a handle supporting the torch head (column 5, lines 19-27; and Figures 4 and 5).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US 4,145,595) in view of Delgado et al. (US 6,855,905).

Keller et al. disclose the elements of claims 1 and 3. Keller et al. does not specifically disclose the coupling of tubes via the plurality of biasing members.

However, Delgado et al. disclose a flexible welding torch having a restraining member, in which the welding torch further includes a torch head 32 operable to couple electricity to a welding electrode 24 disposed therein; a cooling fluid supply tube, in the form of a gas from cylinder 26, operable to convey the cooling fluid to the torch head 32; a first biasing member (coil assembly 36), in which the coil 40 of the coil assembly 36 is operable to flexibly couple the cooling fluid supply tube to the torch head 32; a flexible tube 38 disposed over the coil assembly 36; and coupling members (42,44) of the coil assembly 36, which are operable to couple tubes between the torch head and the gas and coolant supply, as well as coolant return, for the purpose of providing flexibility while limiting relative displacement of the coupling members (abstract; column 2, lines 2-24 and 60-67; column 3, lines 1-67; column 4, lines 1-61; and Figures 1-4).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the flexible welding torch disclosed by Keller et al., by coupling the tubes via the biasing members, as taught by Delgado et al., in order to provide flexibility while limiting relative displacement of the coupling members (Delgado et al.; abstract; and column 2, lines 6-24).

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6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US 4,145,595) in view of Rehrig (US 5,403,987).

Keller et al. disclose the elements of claims 10 and 11. Keller et al. do not specifically disclose the use of heat shrink tubing for the flexible tube.

However, Rehrig discloses a flexible gas-shielded welding torch, in which the torch includes a torch head (12,16) operable to couple electricity to a welding electrode 18 disposed therein; a cooling fluid supply tube, in the form of a pressurized gas from a gas source via connector 50, operable to convey the cooling fluid to the torch head (12,16); a first biasing member (bendable metal helix 46 that provides gas and current), in which the helix 46 is operable to flexibly couple the cooling fluid supply tube to the torch head (12,16); and heat-resistant sealing tape 52 in the form of a heat shrinkable pliable sleeve, in which the heat shrink sleeve is advantageous for providing isolation and insulation to the metal helix (abstract; column 3, lines 7-53; column 4, lines 4-68; column 5, lines 1-68; column 6, lines 1-46; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the flexible welding torch disclosed by Keller et al., by using heat shrink tubing for the flexible tube, as taught by Rehrig, in order to provide isolation and insulation to the metal helix (Rehrig; abstract; and column 6, lines 37-46).

7. Claims 26, 27, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US 4,145,595) in view of Willgoths et al. (US 3,999,033).



Keller et al. disclose the elements of claims 18, 25, 35, 40 and 41. Keller et al. do not disclose the use of wires braided together as a deformable support member.

However, Willgohs et al. disclose an arc welding torch having a flexible wire guide assembly, in which the assembly includes helically wound flexible wires braided together as the deformable support member, which is advantageous for providing a readily flexible wire guide assembly capable of universal adjustment without kinking and flattening during bending, thus having improved strength (abstract; column 2, lines 10-47 and 62-68; column 3, line 1 through column 5, line 13; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the flexible welding torch disclosed by Keller et al., by using wires that are braided together as a deformable support member, as taught by Willgohs et al., in order to provide a readily flexible wire guide assembly capable of universal adjustment without kinking and flattening during bending, thus having improved strength (Willgohs et al.; column 2, lines 43-47).

#### **(10) Response to Argument**

With regard to the appellant's remarks/arguments on pages 6-12 of the Appeal Brief, it is noted that the appellant's arguments in responding to the 35 USC 102(b) rejections of independent claims 1, 10, 18, and 35 are provided as follows:

A. First Ground of Rejection (pages 6-8 of brief) – the rejection of independent claim 18 is improper because the rejection allegedly fails to establish a *prima facie* case

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of anticipation in view of the applicant's admitted prior art (AAPA), as it allegedly fails to teach a "tripod support system" (independent claim 18).

B. Second Ground of Rejection (pages 8-11 of brief) – the rejections of independent claims 1, 10, 18, and 35 are improper because the rejections allegedly fail to establish a *prima facie* case of anticipation in view of Keller et al., as it allegedly fails to teach the "non-tubular" material and coils (independent claims 1, 10, and 35) and the "tripod support system" (independent claim 18).

First, in response to the appellant's arguments addressing the "tripod support system" (from the middle of page 7 to the middle of page 8 of the brief) in the First Ground of Rejection, the examiner notes that independent claim 18 requires first, second, and third legs, each of which comprises respective first, second, and third springs, in which the springs are disposed "generally parallel to an axis of the handle supporting the torch head". As set forth in section 2 of above section "(9) Grounds of Rejection", the three legs (each of which comprises springs in the form of coiled tubes; in other words, the legs are the springs) are identified in the applicant's admitted prior art (AAPA) as the gas supply tube, the coolant supply tube, and the coolant return tube (see portion of above section 2 in "(9) Grounds of Rejection" that are enclosed in quotation marks, which reflects that this disclosure is cited *verbatim* from paragraph [0003] of the specification). Specifically, this disclosure is cited as follows: "*Welding implements have been developed to enable the torch to have a degree of flexibility so that the electrode may be positioned relative to a user's hand. In a liquid-cooled torch,*

*the flexibility is achieved by using a series of coiled tubes to secure the torch head to the torch. A shield gas is conveyed through the interior of one of the tubes. Additional tubes are used to convey cooling liquid to and from the torch head. The tubes are coiled around each other and may be flexed to reposition the torch head.*” It is noted that although the applicant’s admitted prior art (AAPA) teaches “tubes”, rather than “non-tubular” material, the “non-tubular” limitation has not been included in independent claim 18, for which this rejection would still apply in view of the “tripod support system” secured to the torch head. Importantly, as stated in the 1<sup>st</sup> full paragraph on page 8 of the brief, the appellant states, “the three biasing members of the recited *tripod support system* must be uncoupled (certainly not coiled around each other) in order to form the requisite three legs of the *tripod support system*, as recited in claim 18”. The examiner respectfully disagrees with the appellant’s assessment of the “tripod support system”, as three coiled legs provide a “support system” without regard to how the legs are arranged. In addition, it is noted (from section 9 of the final rejection dated August 10, 2006) that the examiner had provided the following statement: “In order for the applicant to be given more favorable consideration, it is suggested to distinguish the “tripod support system” from the prior art by providing limitation(s) with terms such as “uncoupled” or “uncoiled”.”, which would have overcome the “series of coiled tubes” system set forth in the AAPA (see bottom of page 7 of brief). Given that the applicant’s admitted prior art (AAPA) discloses all structural features set forth in independent claim 18, claims 18-21 remain rejected under 35 USC 102(b)/(a) in view of the applicant’s admitted prior art (AAPA).

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Second, in response to the appellant's arguments addressing the "non-tubular" material and coils (from the last two lines of page 9 to the middle of page 11 of the brief) in the Second Ground of Rejection, which addresses the 35 USC 102(b) rejections based on Keller et al., the examiner notes that Keller et al. include either tubular or solid wires that are generally parallel with one another and with an axis of a handle supporting the torch head, while having axial flow components (Keller et al.; column 5, lines 19-27; and Figures 3-5). In addressing the appellant's arguments in the last paragraph on page 10 and the 1<sup>st</sup> paragraph on page 11 of the brief, the appellant appears to agree that Keller et al. disclose either tubular or solid wires, the tubular wires of which would be capable of carrying cooling fluid or gas supply. However, and importantly, the solid wires would be capable of defining (i.e. directing by deflecting) flows of cooling fluid or gas supply, thus creating an axial flow component. Since Keller et al. disclose that either tubular or solid wires are used to form a double helix, and flow of cooling fluid or gas would be either carried through (tubular) or directed via deflection (non-tubular solid wires), independent claims 1, 10, and 35 (and claims dependent therefrom) fail to distinguish over the explicit and implicit teachings within the Keller et al. reference. Contrary to the appellant's arguments, particularly the arguments that state, "Therefore, the double helix in Keller *must be made of tubular material* in order to..." (last paragraph on page 10 of brief), and "the coils described in Keller *would have to be made of tubular material*, as opposed to the *non-tubular* coils...", the examiner respectfully disagrees. In addressing these arguments, column 5, lines 19-21, of Keller et al. states the following: "Because the helix is embedded in and cushioned by an

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elastomeric material, it is also *feasible* to make the double helix of tubular rather than solid wire...". This statement discloses that the double helix would be selectively tubular or solid, despite the fact that the torch head would still require such structures that (individually) supply gas, current, and coolant, as well as a coolant return line, for operation of the welding torch. As a result of these required structures (plurality of helical tubular or solid wires expressly disclosed by Keller et al.), Keller et al. would thus additionally disclose the structural feature "tripod support system" of independent claim 18. As stated above, it is noted (from section 9 of the final rejection dated August 10, 2006) that the examiner had provided the following statement: "In order for the applicant to be given more favorable consideration, it is suggested to distinguish the "tripod support system" from the prior art by providing limitation(s) with terms such as "uncoupled" or "uncoiled".", which would have overcome the plurality of helical tubular or solid wires set forth in Keller et al. Given that Keller et al. disclose all structural features set forth in independent claims 1, 10, 18, and 35, claims 1, 3, 10, 11, 13-25, 35, and 37-41 remain rejected under 35 USC 102(b) in view of Keller et al.

As a result of the teachings individually set forth by the applicant's admitted prior art (AAPA) and Keller et al., all 35 USC 102 rejections should be sustained.

Finally, with regard to the appellant's Third, Fourth, and Fifth Grounds of Rejection (pages 11-13 of brief), which are inclusive of all 35 USC 103(a) rejections, it is noted that the appellant did not provide specific arguments addressing potential deficiencies of Delgado et al. (applied to dependent claims 4-9), Rehrig (applied to

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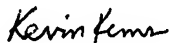
dependent claim 12), and Willgohs et al. (applied to dependent claims 26, 27, and 42), all of which were applied as secondary references under 35 USC 103(a) in combination with the primary (Keller et al.) reference. As a result of the lack of specific arguments (other than the alleged deficiencies of Keller et al. as an improper base reference under 35 USC 102(b), for which the examiner has addressed in detail above), the examiner respectfully asserts that all 35 USC 103(a) rejections, which are set forth in sections 5-7 of above section "(9) Grounds of Rejection", properly set forth respective *prima facie* cases of obviousness (see details in sections 5-7 of above section "(9) Grounds of Rejection"). As a result, all 35 USC 103(a) rejections should be sustained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kevin P. Kerns   
Primary Examiner  
AU 1725

Conferees:  
Patrick Ryan   
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